

INFORMATION REPORT

CD NO.

COUNTRY USSR (Georgian SSR)  
SUBJECT Aircraft Plant [ ] in Tbilisi

DATE DISTR. 10 March 1952

NO. OF PAGES 3

PLACE  
ACQUIRED

NO. OF ENCLS. 7 (3 pages)  
(LISTED BELOW)

DATE OF  
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SUPPLEMENT TO  
REPORT NO. 25X1

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1. [ ] Aircraft Plant [ ] in Tiflis produced only one type single-engine jet fighter, starting in 1947. This was a single-seater fighter with two 37-mm to 40-mm guns in the nose. [ ] the aircraft produced as being mid-wing monoplanes. It is not known whether the wings were dihedral. [ ] estimated the wing thickness as being 25-cm to 30-cm at the strongest point. The landing flaps, 15-cm to 20-cm wide, were smoothly faired into the wing. No devices or deformations on the wing surface were observed. The production of these fighters was two per day. [ ] also estimated the speed of the fighter to be 900 km per hour. [ ] estimated the daily production at one, and occasionally two, aircraft. (1)

2. Soviets said that the turbojet engines were received, in unknown quantities, by rail from the Moscow area. The engines were shipped in dark green crates which were made of 25-mm board, the dimensions of which were 250x20x90-cm. [ ] The cigar-shaped jet engines were 2.20 meters long and 60-cm in diameter. The outlines of these engines resembled those of a German 1,300 kg aircraft bomb. The inside diameter at the exit of the turbine was estimated at 25-cm to 30-cm. The engines were never observed being repaired or overhauled at the plant. [ ] observed, [ ] the starting of an engine. A mechanic pushed a device, about 60-cm long, similar to a pneumatic hammer, into the air intake. A noise like that of a hand-operated siren followed and a few minutes later the aircraft took off. (2)

3. Production lines were not used at the plant until 1949. [ ] aircraft frames with landing gear were pushed by hand on light rails, from one assembly station to the next. The frames were worked on simultaneously at two rails, one for the fuselage and the other for the wing assembly. (3) Riveting and electric welding were observed during the assembly. The steel jigs for the wing assembly were constructed by PAs from sketches in the repair shop. The dimensions were checked with a measuring tape.

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[REDACTED] the fuselage ribs were manufactured in the press cutting shop and that the material used was pressed duralumin. Other materials such as wood, etc., were not observed. The ribs varied in size but were of the same shape and were assembled from four parts. They were fitted to the fuselage at estimated equal intervals of 40-cm to 60-cm. Stringers were fitted to the ribs, with three to each side of the fuselage. They were similar in cross section to the ribs but were a bit stronger and consisted of three aluminum parts, 1 1/2 to 2 meters long. The type of fastening used in assembling the stringers was not known but the connections were smooth. Connection pieces, such as cross fittings, angle fittings, and sleeves, were never observed. The stringers were fitted to the outer side of the ribs and were believed to have been fastened to the ribs by screws. It was not known whether all stringers extended through the entire length of the fuselage. (5)

4. Aluminum sheets, varying in thickness from 0.5-mm to 4-mm, were seen at the plant. (6) The thickness of the aluminum skin covering was not known. Two types of silver-gray aluminum were seen. One type was dull and the other had a mirror-like luster.
5. Electrical and radio equipment, armament and instruments were not manufactured at the plant although serials and armament seen on aircraft being rolled to the test flights indicated that these accessories were installed at the plant. The source of this equipment was not known. The armament was tested at the target range.
6. The disassembly for shipment of four aircraft per day was observed at the loading ramp. The disassembly was rapidly accomplished by five or six men working from 7.00 a.m. to 5.00 p.m. The aircraft were usually loaded by 6.00 p.m. The test stand for power plants was in operation for a period of two to four hours every two or three days. [REDACTED] black heating oil in the crude oil warehouse. (7)
7. The plant employed about 3,000 laborers who worked in three shifts.

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[REDACTED] Comments.

- (1) For plant location and layout see Annexes 1 and 2. These sketches essentially agree with previous information. High speed lathes were not noticed in the ground floor machine shop of building [REDACTED]. It was allegedly equipped with automatic lathes only. No information was available on tungsten-carbide tipped cutters or on the machinery of the upper stories. For sketches of the aircraft produced at this plant, see Annexes 3 and 4. For sketch of wing shape, see Annex 7/C.
- (2) For sketch and estimated dimensions of the jet engines used, see Annex 5/B. From the dimensions given it appears that this is the Soviet version of the JUMO 004 type power plant. The outboard starter engine, which was reported for the first time, also points to a JUMO 004 engine.
- (3) A previous report stated that wings and fuselages were transported by trolleys while another report discussed the manually operated transport of jigs on light rails to the various assembly stations. This second report also mentioned the simultaneous assembly of about nine aircraft, which appears more probable.
- (4) For a sketch of these jigs, see Annex 5/A. No definite conclusion can be drawn as to the purpose of this jig, but it is assumed that a frame for the adjustment of the fuselage position was concerned and that the spindle was not reproduced on the sketch.

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- (5) For sketches of ribs and stringers, see Annexes 6, 7/A and 7/B. The information concerning ribs and stringers was given in answer to direct leading questions and should be treated with reserve. The square, closed type of stringers and the manner in which they are said to be fastened to the ribs is doubted. It is rather assumed that the aircraft frames were of shell construction supported by stringers only.
- (6) This is the first information on a skin covering less than 1-mm thick, indicating that the type of skin (0.3-mm to 0.5-mm) used in western aircraft construction is also used in the U.S.S.R.
- (7) A previous report stated that "masut" fuel was stored in this warehouse.

7 Annexes: 7 - sketches on ditto.

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Attachment 1

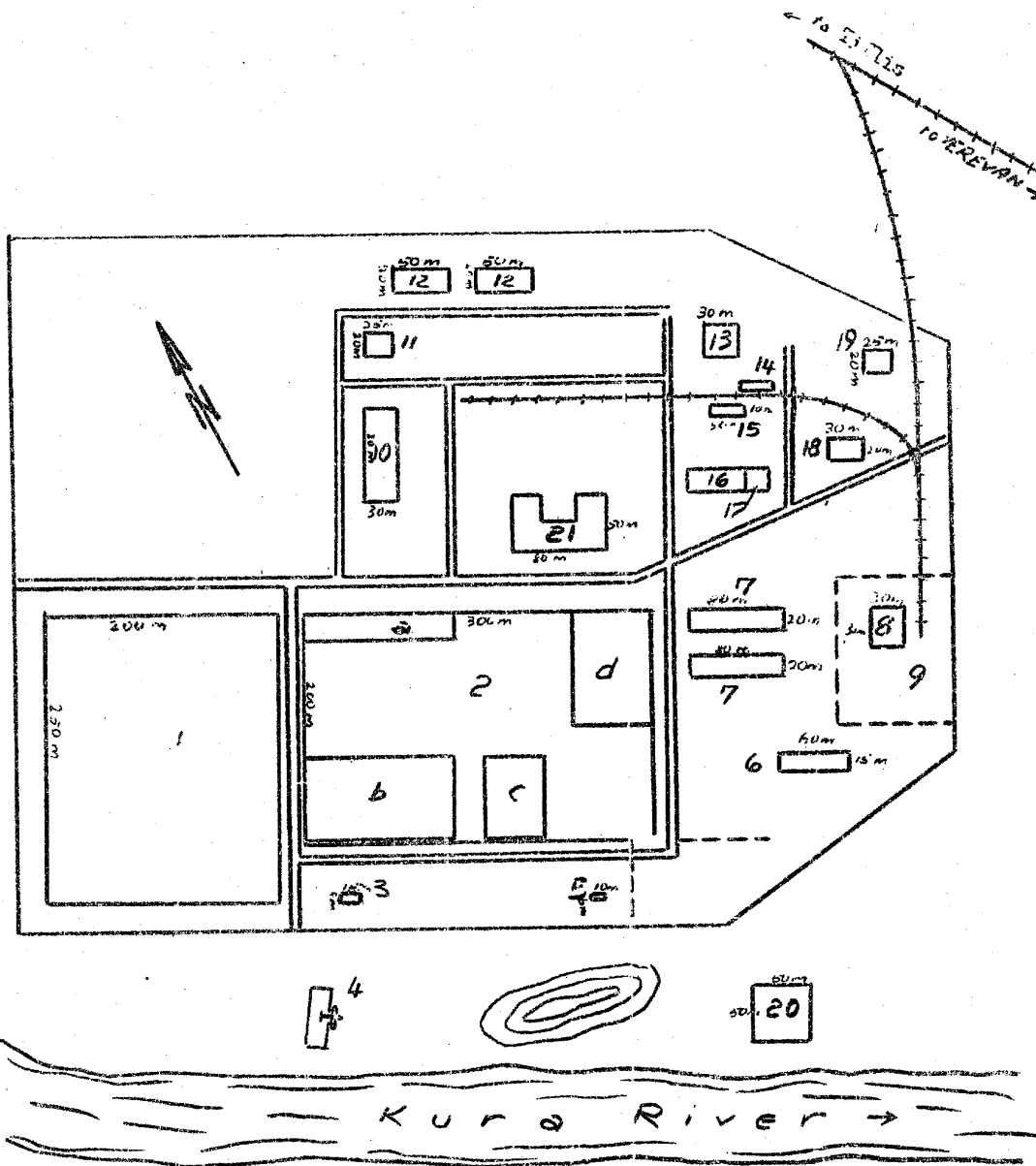
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Aircraft Plant [ ] in Tiflis.

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Legend: See next page.

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Attachment 1  
Page 2

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Legend

1. Workshop for component parts, several stories high.
2. Assembly shop.
  - a. Administrative office.
  - b. Final assembly stations.
  - c. Drying room.
  - d. Riveting and welding shop.
3. Painting shop.
4. Target range.
5. Carbide warehouse.
6. Repair shop.
7. Aluminum warehouse.
8. Saw mill.
9. Timber dump.
10. Oil burning power plant with two steam turbines.
11. Foundry with one cupola furnace and five aluminum smelting furnaces.
12. Carpenter shops.
13. Boiler house with six hard coal burning boilers, having a daily consumption of 30 tons of coal.
14. Loading ramp.
15. Ply-wood warehouse.
16. Drafting office.
17. Small workshop.
18. Paint warehouse.
19. Aluminum smelting shop for scrap, with two furnaces.
20. Water filtering plant and pumping plant.

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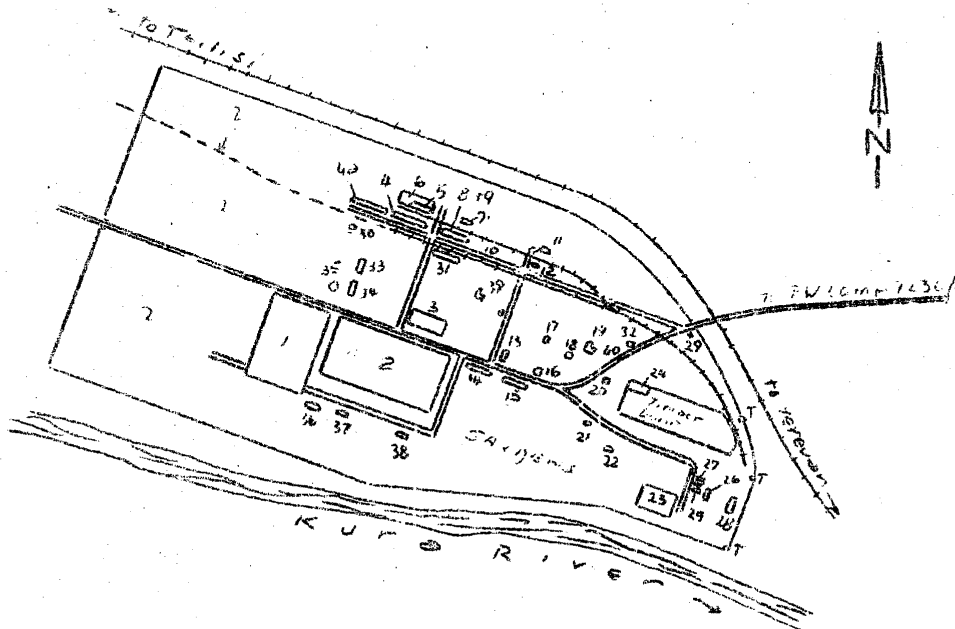
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Attachment 2

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Aircraft Plant [ ] in Tiflis.

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Legend:

- |   |  |
|---|--|
| 1. Workshop with offices in the southern section.       | 23. Motor pool.  |
| 2. Workshop.  | 24. Grate dump.  |
| 3. Workshop.  | 25. Building.  |
| 4. and 4a. Warehouses.                                  | 26. Clothing warehouse.                                |
| 5. Carpenter shop.                                      | 27. Air washing shop.                                  |
| 6. Material warehouse.                                  | 28. Sawmill.   |
| 7. Boiler house.  | 29. Guard house.                                       |
| 8. Warehouse for electric equipment.                    | 30. Crude oil warehouse.                               |
| 9. Test stands(?)                                       | 31. Cement store with ramp.                            |
| 10. Ramp.   | 32. Office building.                                   |
| 11. Smelting plant for aluminum.                        | 33. Solidly constructed building.                      |
| 12. Building.   | 34. Solidly constructed building.                      |
| 13. Office building.                                    | 35. Fire extinguishing pool and swimming pool.         |
| 14. Warehouse.  | 36. and 37. Solidly constructed buildings.             |
| 15. Warehouse.  | 38. Solidly constructed building (clothing warehouse). |
| 16. Office building with storage space in the basement. | 39. Timber shed.                                       |
| 17. Temporary workshop.                                 | 40. Scrap dump (with aircraft scrap).                  |
| 18. Fire extinguishing pool.                            |  |
| 19. Slag stone plant.                                   |  |
| 20. Clay cabin, office of timber camp.                  |  |
| 21. Small workshop.                                     |  |
| 22. Small workshop.                                     |  |
- T. Guard towers.

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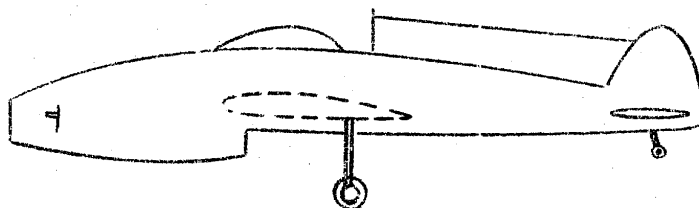
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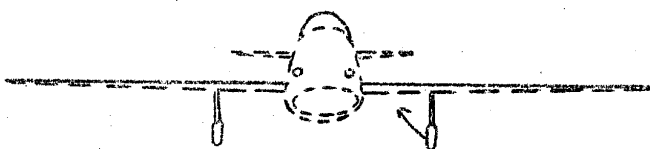
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Aircraft produced at Tiflis Aircraft Plant

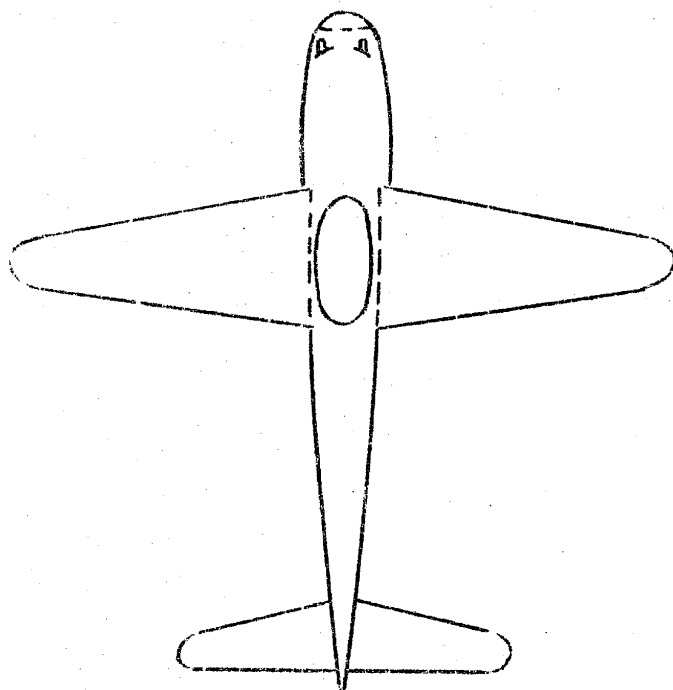
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a. Side view.



b. Front view.



c. Top view.

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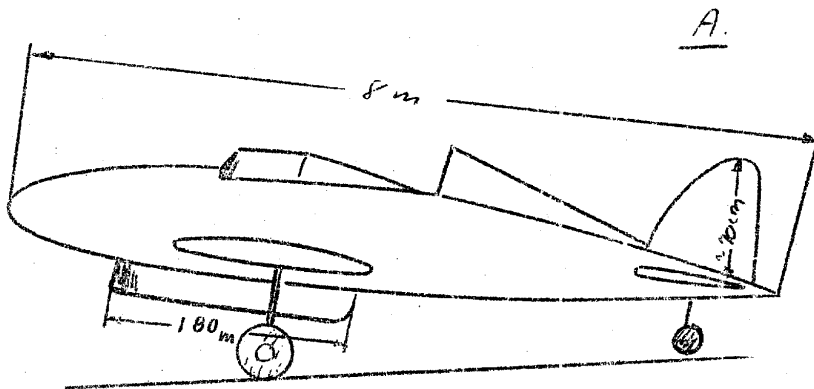
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Attachment 4

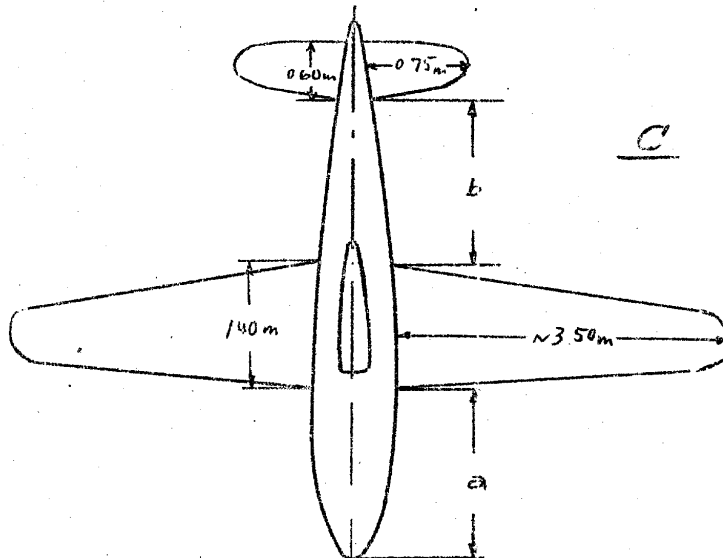
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Aircraft produced at Tbilisi Aircraft Plant

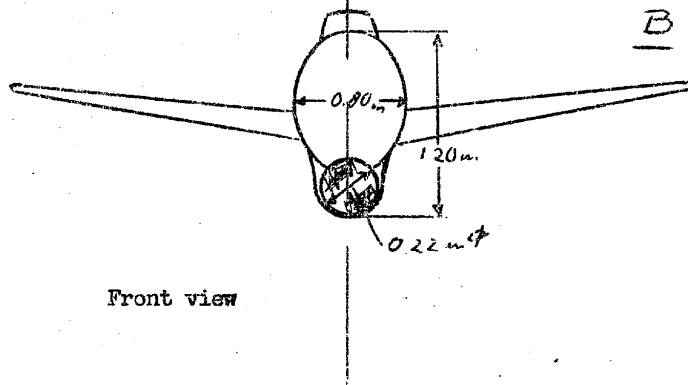
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Side view



Top view



Front view

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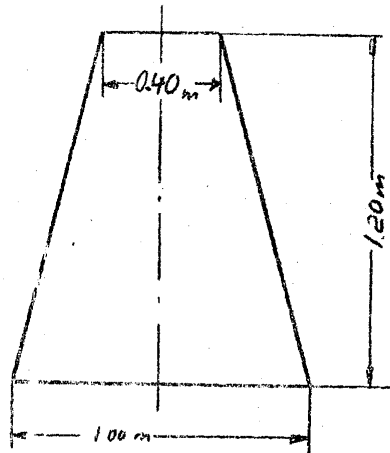
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dis observed at the Pacific Aircraft Plant

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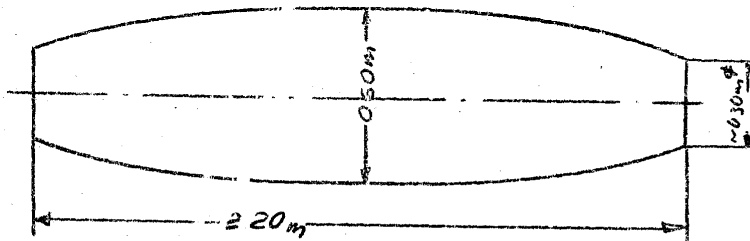
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Turbine wheel  
(vague reproduction)



B

lower plant.



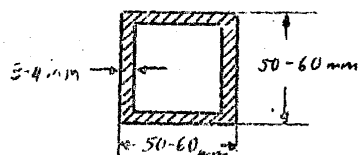
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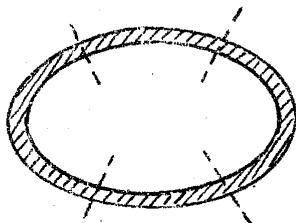
Attachment 6

Cross Section of Aircraft Rib



A

Shape of Aircraft Rib

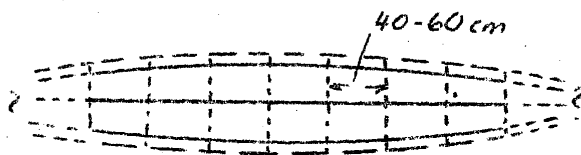


B

not to scale

Side View of Fuselage

C



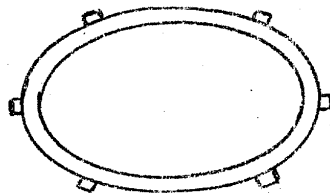
- fuselage
- stringers
- ..... ribs

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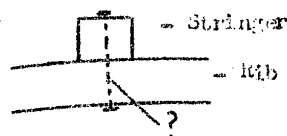
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Front View of Ribs with Angled Stringers



A

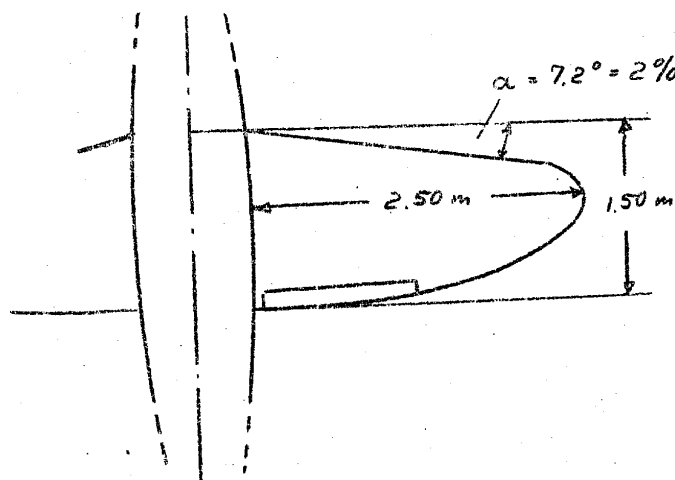


B

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Aircraft produced at Tbilis aircraft plant

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